Unit Operations Center (UOC) Overview

June 2003

Milestone Decision Authority: BGen William Catto

Program Manager: Col Paul Ortiz

Team Leader: Mr Kevin Holt

Project Officer: Maj Sherman Bierly

What is UOC?

UOC provides Marine Operational Forces with Command and Control Capabilities whenever and wherever they operate or fight

- **Command and Control To Go**
- **Increased Operational Capability and Mission Effectiveness**
- **Enhanced Situational Awareness**
- **Preservation of Resources**

What is the UOC System?

The UOC is a modular, scalable and mobile Command and Control System built to facilitate faster and more accurate decision making by Marine Operational Forces

- **Highly mobile sets of equipment called Capability Sets (CapSets) are easily setup and networked to quickly establish mission operations**
- **Provides commonality and standardization among Marine systems**
- **Designed for rapid and flexible deployment and employment**
- **Supports Decision Superiority within US and Coalition Operations**

UOC Program is NOT

- Will **NOT** *modify* current Tactical Data Systems (TDS) software applications
- Will **NOT** provide additional Tactical Radios
- Will **NOT** provide additional Prime Movers

Program Background

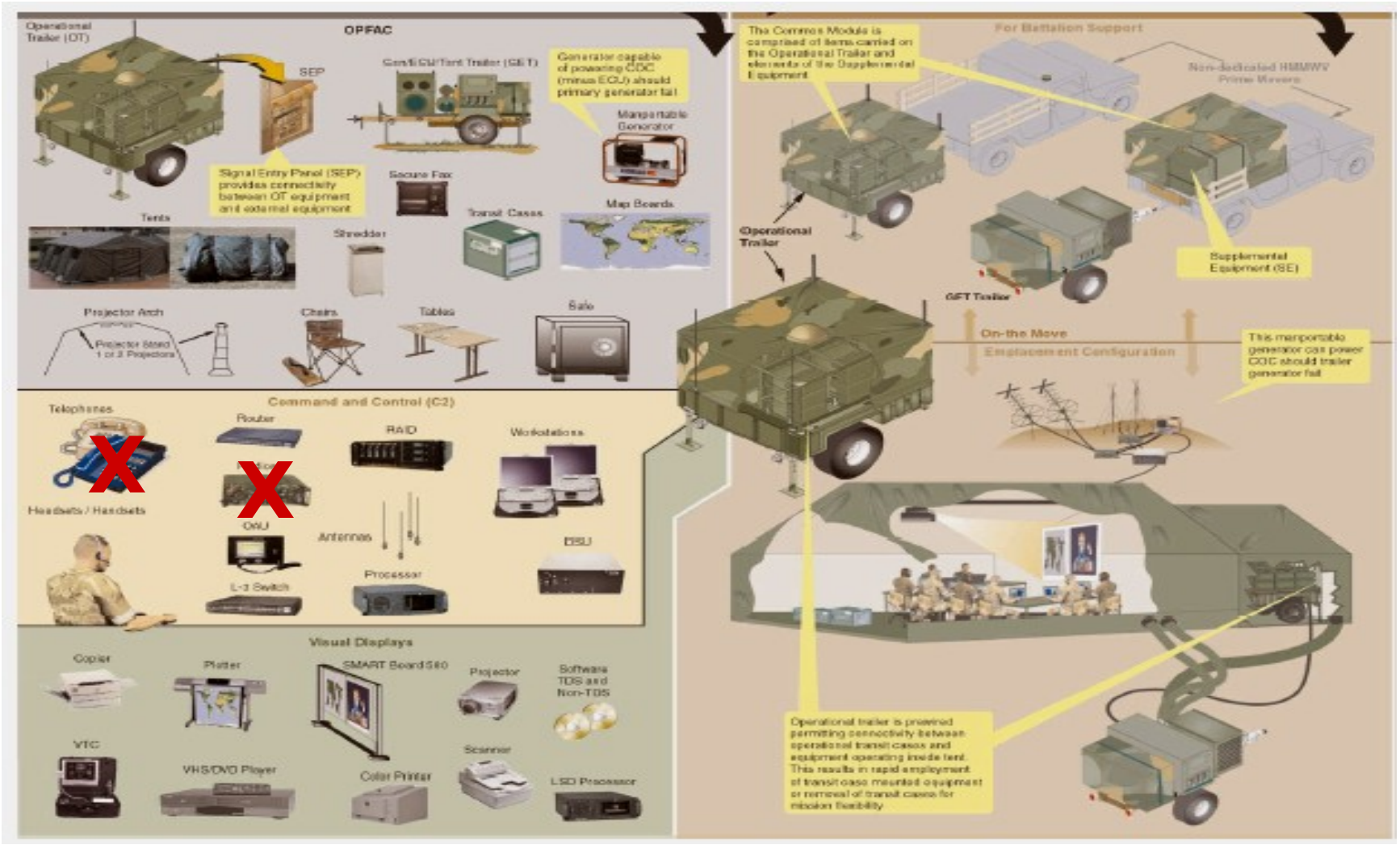
- ✓ Oct 01 – Phase B UOC RFP ADM
- ✓ Apr 02 – Contract Award General Dynamics Decision Systems
- ✓ Nov 02 – Mar 03 – System Demonstration
- ✓ Feb 03 – Pilot Production (4) & Leading Items procurement
- ✓ Apr 03 – MS C/LRIP (11) Decision
- ◆ Apr – Sep 03 – PRT&E I
- ◆ Aug 03 – LRIP Phase II Decision
- ◆ Jul 03 – First system delivered – up to Dec for LRIPs
- ◆ Jan 04 – PRT&E II begins
- ◆ Apr 04 – OT begins
- ◆ Jul 04 – IOC/Full Rate Production decision

Dedicated, Operational Trailer (OT)
Supplemental Equipment (SE)
Note: All vehicle loads secured with tie downs and covered with tarps
Dedicated, Generator ECU, Tent Trailer (GET)
Capability Set IV Small Footprint
- Meets threshold requirement- one C-130 sortie
- Exceeds requirements with internal transport in two CH-53s

Systems Demonstrations to date

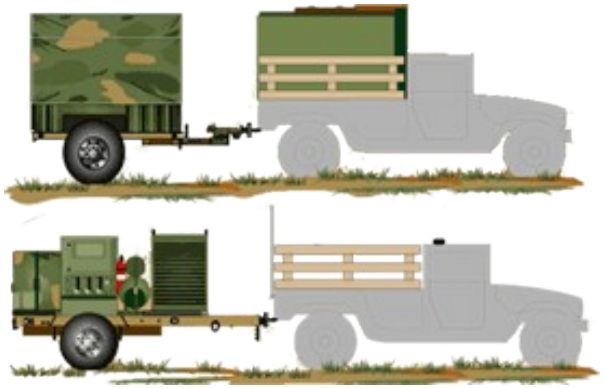
- General Dynamics Scottsdale, AZ
- MCTSSA
  - Software testing
  - Training 6th Marines; 2/5
- Nevada Automotive Test Center (NATC)
- Quantico Comm School
  - Intercom demonstration
  - Radio demonstration
- Setup/Teardown exercises (3/6)

UOC Components



Building Block Approach

- A Capability Set (CapSet) provides mobile Command and Control capabilities to Marine Operational Forces at different echelons
- CapSets are built using common, modular, scalable building blocks
- Different Combinations of CapSets are assembled to meet specific mission needs from Battalion through Marine Expeditionary Forces (MEFs)



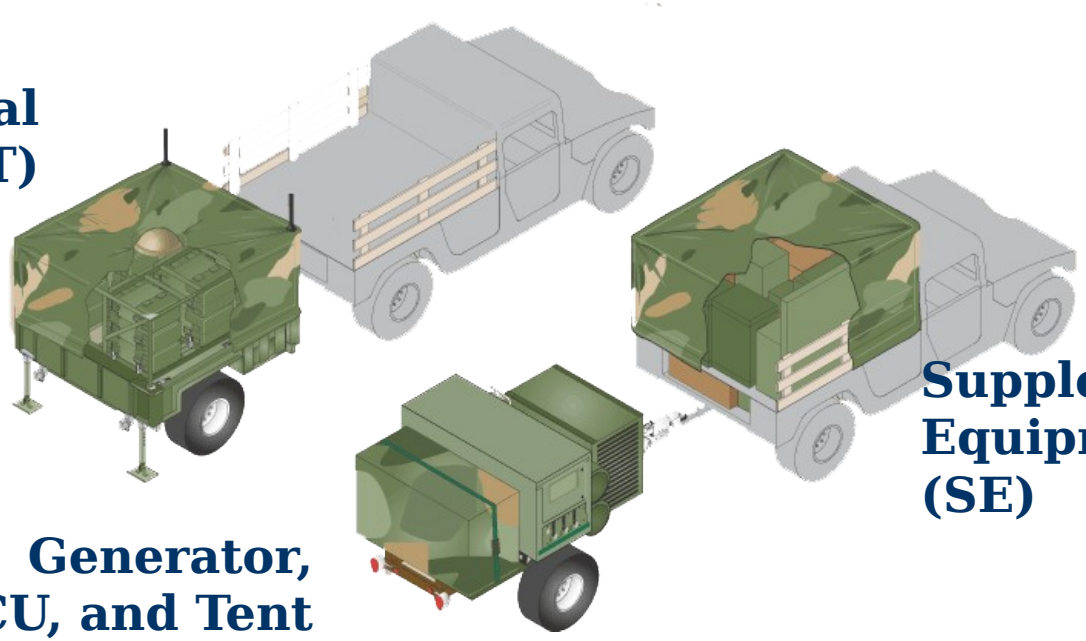
CapSet IV (Bn. Fwd.) stowed for Ground Transport

Fast Deployment

UOC is designed for maximum deployment flexibility using a ‘T3’ design:

Tents, Trailers, Transit Cases

Operational Trailer (OT)

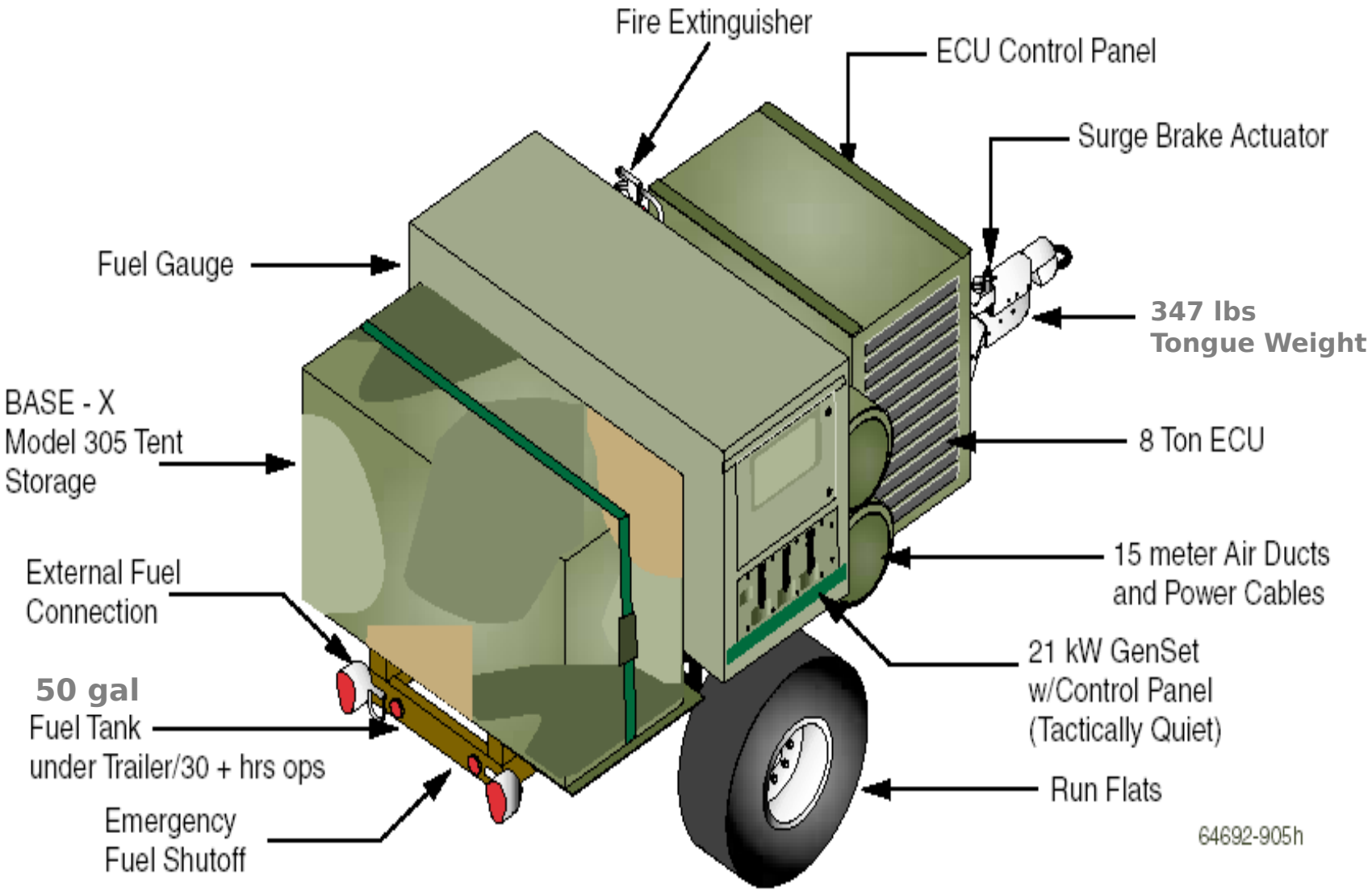


Supplemental Equipment (SE)

Generator, ECU, and Tent (GET)

T3 design allows a wide range of

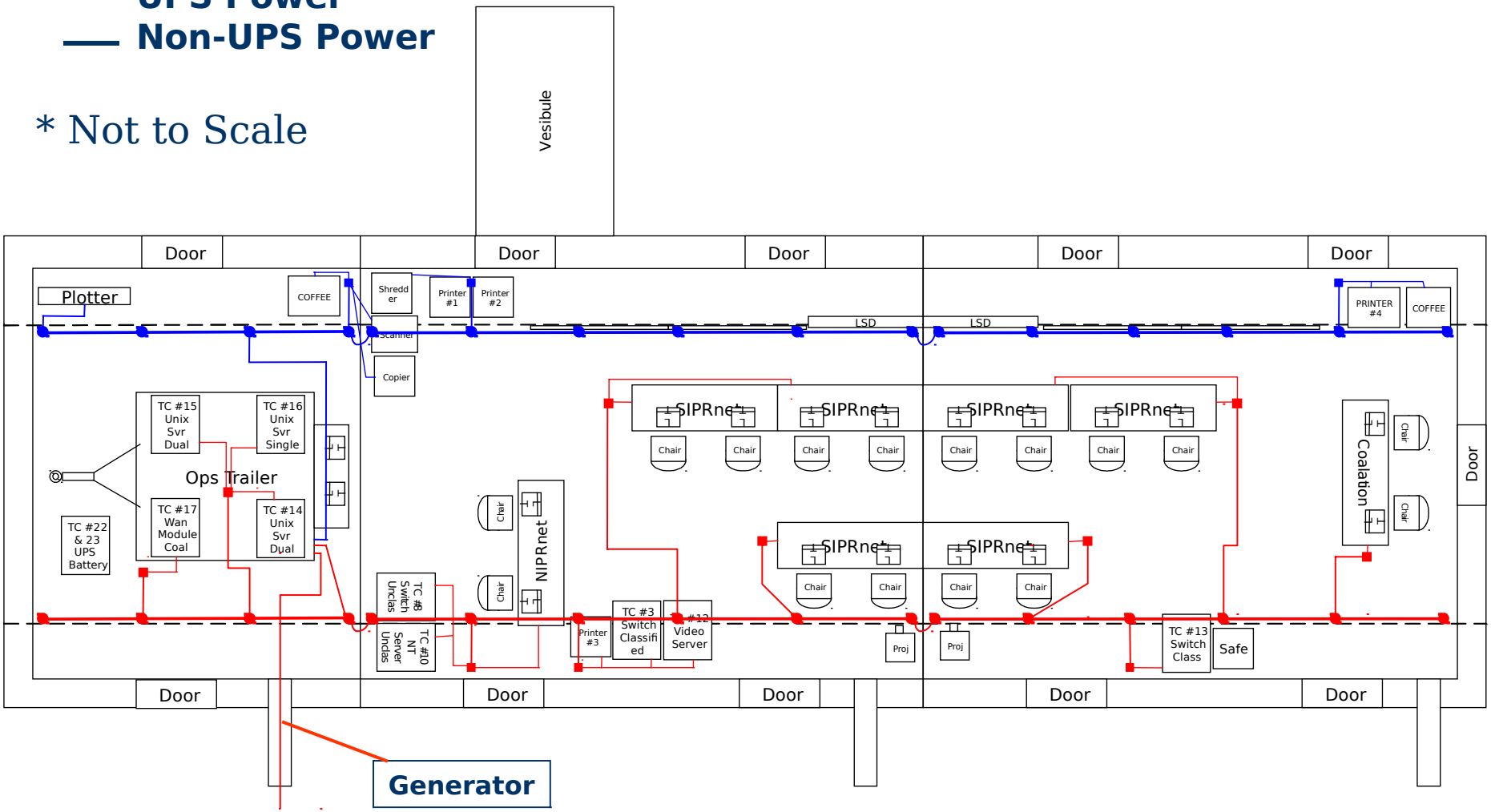
Multi-Purpose Trailer : Generator, ECU, Tent



Operational Facility Layout
Capset III

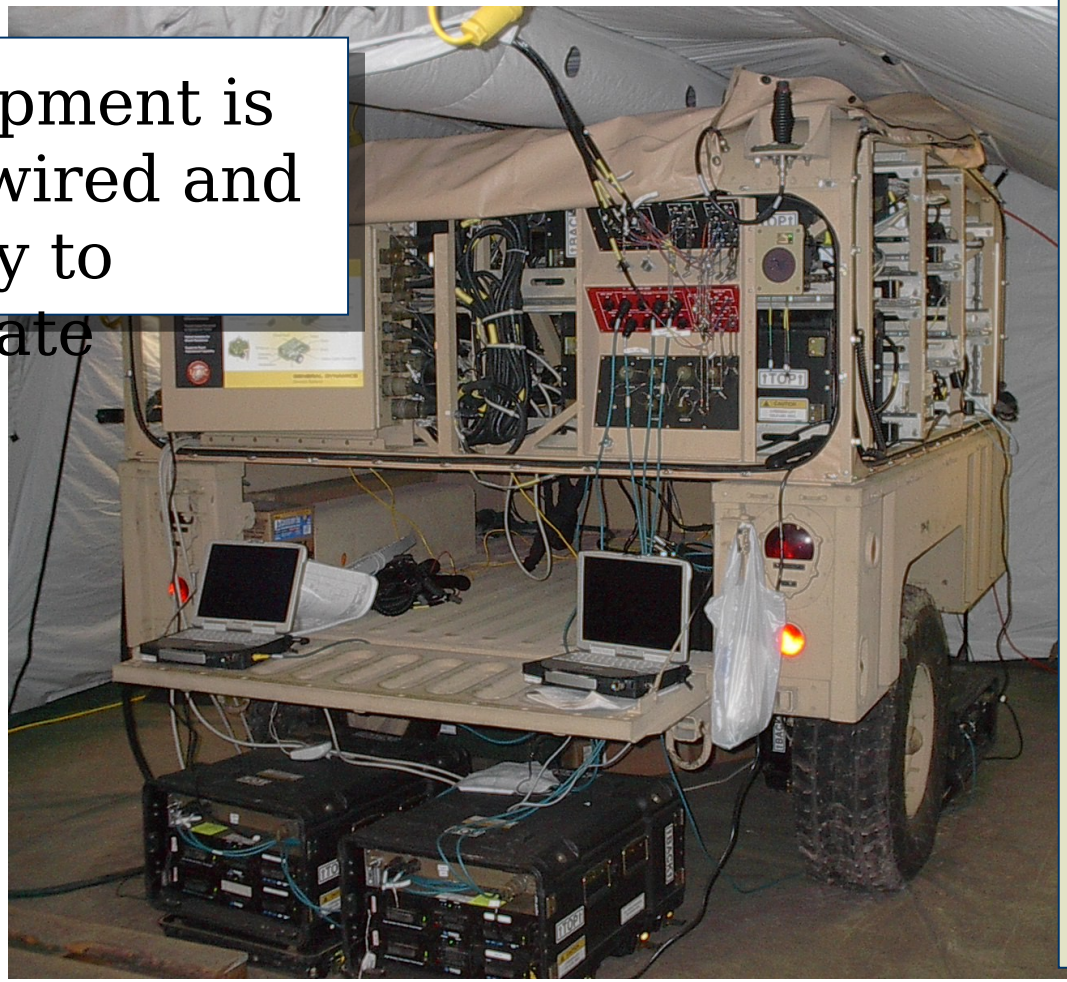
UPS Power
Non-UPS Power

* Not to Scale



Ready-to-Go Operational Trailer

Equipment is pre-wired and ready to operate



- Classified Network
  - WAN
  - LAN
  - Servers
- Unclassified Network
  - WAN
  - LAN
  - Servers
- RAID
- UPS
- Operators

- Workstations
  - Intercom

- Table/Chairs

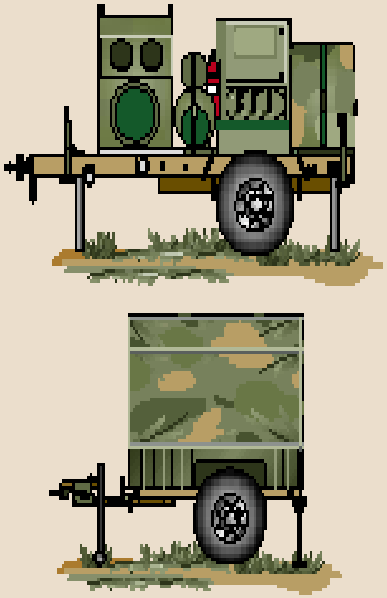
How is UOC Employed?

- UOC system is built using common, modular and scalable building blocks allowing rapid setup and employment
- Network of workstations support standard Tactical Data Systems and other integrated mission critical software
- Architecture allows a wide variety of flexible configurations to suit specific needs of Commander and staff
- UOC can accommodate T/E assets including radios and PCs
- Digital communications network using a digital VoIP intercom among Marines and other users on network

Ease of Employment

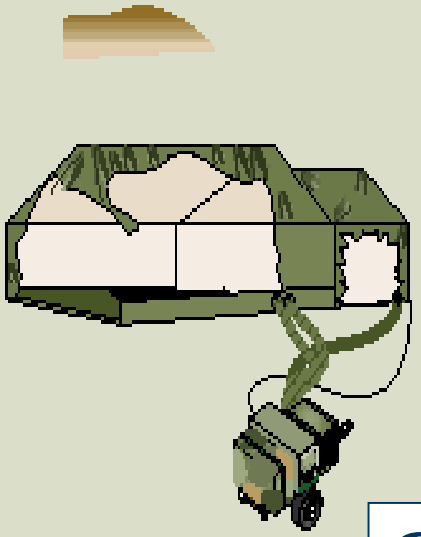
- Trailers Emplaced
- Generator Grounded and Cabled

t = 10 minutes



- Tent and Vestibule

t = 20 minutes

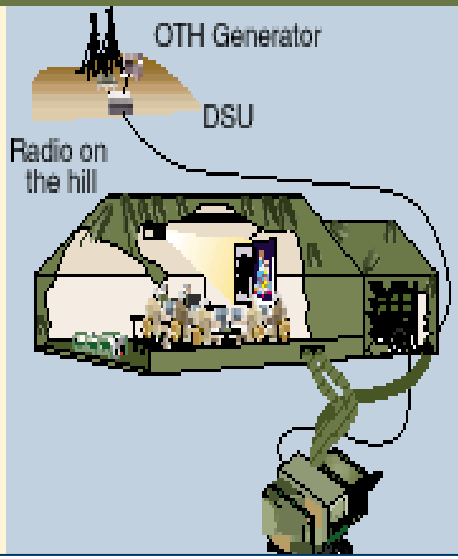


- Tent Furnished with Tables, Computers
- System Grounding Completed
- Intercabling Complete

t = 30 minutes

- All Systems Operating

t = 40 minutes



Operational in 40 minut

Fleet to UOC Comparison

Current COC	Nomenclature	UOC
5-24	**AN/GRA-39**	1 DSU
4 J-1077s	**Junction Boxes**	
(2) 26 pair	**Cable Run**	(1) Fiber
Ad-Hoc	**Power & Distribution**	Integrated
Multiple Configurations & Infrastructure	**COC Configurations & Infrastructure**	Flexible Configurations & Standard Infrastructure

Employment Components

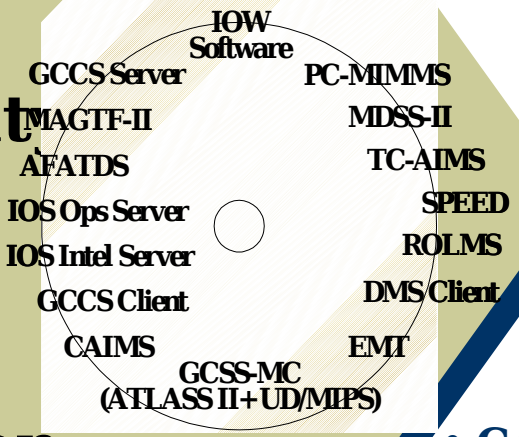
- Software installation “Gold Disk”
  - Configuration Control
- Supports C2 flow of information
- Supports future C2 integration
  - Provides common network environment
  - Defines hardware baseline for software migration
- Networked workstations
- Integrated intercom
  - Access up to 24 radios 2KM by fiber optic cable
- Smart Board w/ overhead projection

UOC Provides These Capabilities

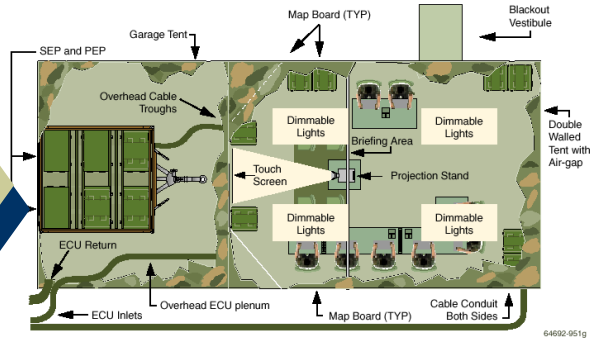
Operational Deficiency

Need for standardized Operational Facility that will provide:

- **Mobility**
- **Power generation**
- **Interoperability**



- **Mobility**
- **Commonality & Configuration Control**
- **Baseline for Doctrine & Process (TTP) Evolution**
- **Processing & Display**



- **Communications Interfaces**
- **Network Infrastructure**
- **Shelter**
- **ECU/Power**
- **Manpower/Training/ Maintenance**

Software

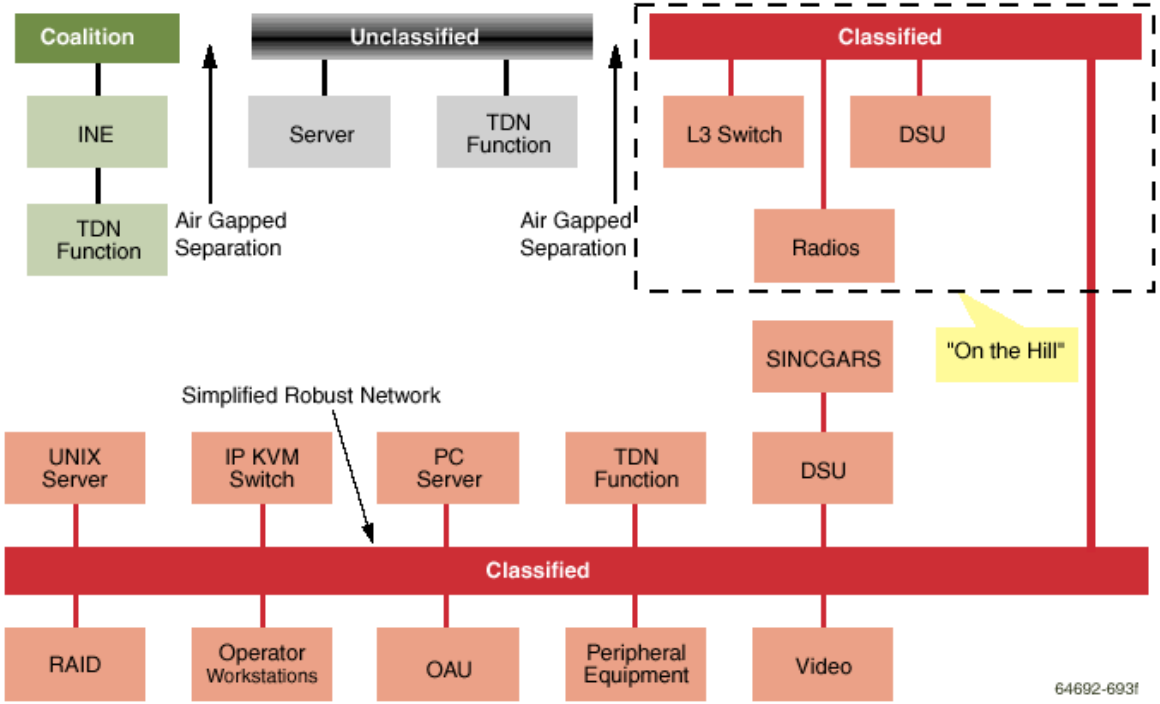
TDS Segments		Non-TDS Segments
GCCS Server, V3.4.1	PC-MIMMS, V1.0A	Microsoft Windows NT 4.0 (Workstation)
GCCS Client, V3.4.1 AFATDS, A99.020	MDSS-II, LOGAIS 6.3 MDSS II	Microsoft Windows NT (Server)
IOS Ops Server, V3.0.6.0, Build 1	TC-AIMS, LOGAIS 6.3 TCAIMS	Solaris (Unix OS)
IOS Intel Server, V3.0.6.0, Build 1	SPEED, V8.0	Microsoft Office Professional Microsoft Internet Explorer
IOW Software, V3.2.2 Beta 2	ROLMS, V6.0	AccessNet VNC
MAGTF-II, LOGAIS 6.3 MAGTF II	DMS, V2.0 Gold	LongArm Radio Control Norton Anitvirus
EPLRS Network Manager		Microsoft Netmeeting Microsoft Chat
		WinZip Adobe Acrobat Reader
		Built-In-Test
		Web-Based Training

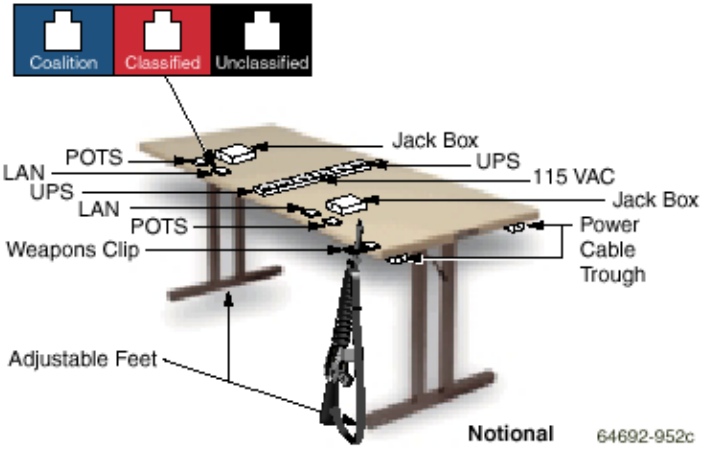
Implementation Key

Increment I Implementation SIPRNET

Increment II Implementation NIPRNET

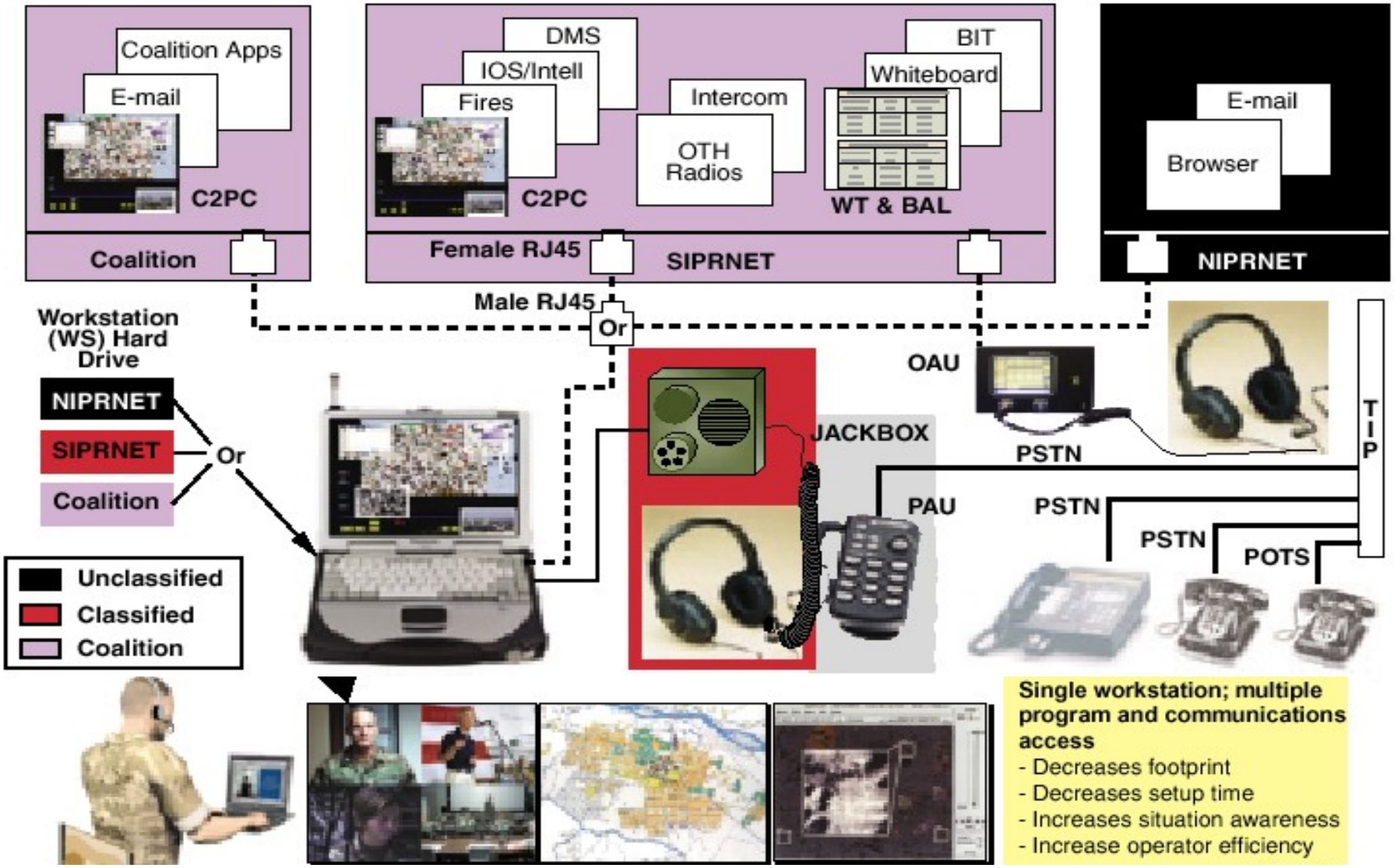
Network Architecture





Workspaces pre-wired for quick employment and network

Communications Design



Intercom

- **Flexible Architecture**
  - Intercom runs on a distributed set of Digital Switches on a secret LAN
  - Provides a gateway to all voice radios and phone lines
  - Software allows security setup to enable/deny access among specific users, radios, phone lines
  - Intercom connections are made by user names, not IP addresses -Target user can be logged on anywhere and the intercom will route to that point on the network
- **Easy-to-Use** - Common software user interface panel for access and control
  - Users connect to intercom from software that runs on standard laptops
  - Operator Access Units also used as standalone intercom nodes
- **Reduced weight and size** – No additional hardware or cabling
  - VoIP on a shared secret LAN
  - software runs on standard user laptop
- **Scalable**: Intercom is easily scalable up or down based on mission need
- **Future**: Intercom design is ready for migration to secure, wireless networks for further flexibility, weight, and size reduction
- **Interoperable**: The intercom can connect with other UOC's or other Joint or Coalition systems that are H.323 compliant (on an approved, secure LAN)

UOC Common Tactical Picture
The Bottom Line

Increased Mission Effectiveness for the Commander

- **Design for Optimum Readiness and Rapid Deployment.**
- **C2 Capabilities Up and Running Quickly**

The Power to Decide.
The Certainty to Act.

Logistics Categories

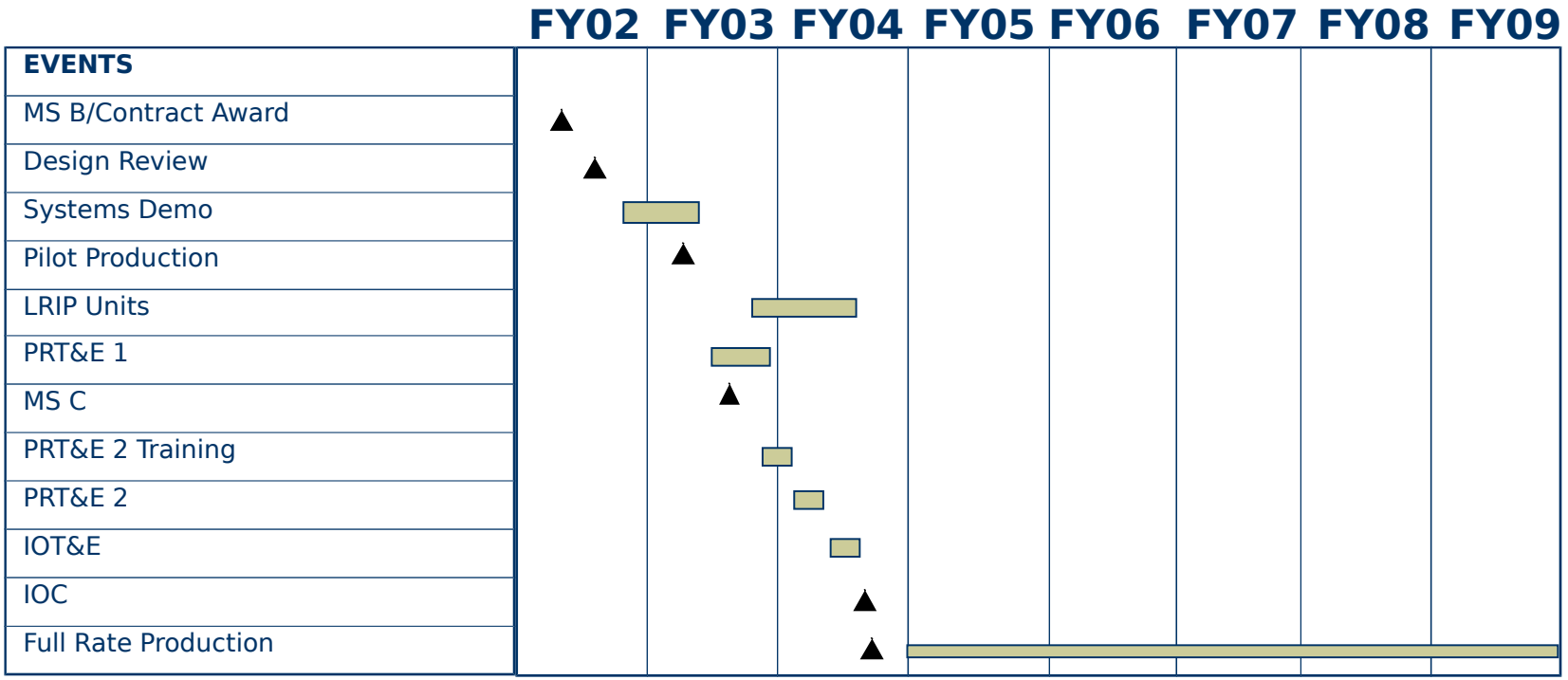
Category	Status
Maintenance Planning	Re-work of LORA in process. Maintenance Concept is heavy ICS through LRIP, then transition to three-level + CLS combination.
Manpower and Personnel	Draft Manpower and Training Plan (MTP) for Inf Bn and Inf Regt complete and in staffing. Drafts underway for MTPs for follow-on orgs.
Training	Training curriculum under development. I&KPT and NET on contract through IOC – follow-on training strategy under review.
Technical Data/Manuals	COTS manuals under development by contractor. Favorable 30% review (format) Feb 03. Interim Review (content) 10-12 Jun 03.
Packaging, Handling, Storage and Transportation (PHS&T)	Contract calls for Best Commercial Practices.
Computer Resources	H/W: IAW USMC policy. S/W: Semi-annual UOC Gold Disk.
Facilities	No unique facilities requirements identified.
Supply Support (Provisioning/Replenishment)	Logistics SOW calls for purchase of UOC provisioning data.
Support Equipment	No special-purpose test equipment identified.

Approved Acquisition Objective

Capability sets								
I		II		III		IV		Total
MEFs	3	MEFs	3	MARFORs	5	MEFs	7	
		DIVs	4	MEFs	15	MEUs	7	
		FSSGs	4	MEUs	7	Inf Bn	66	
				4th MEB (AT)	4	AAV Bn	6	
				DIVs	8	Eng Bn	8	
				Inf REG	22	Recon Bn	8	
				Arty REG	12	Tank Bn	8	
				FSSG	17	LAR Bn	8	
				MAW	4	Arty Bn	30	
				SE	5	FSSG	57	
						MWSS	26	
		FICCS (13)		**3 MARFOR**		MACG	0	
				3 MEF		MAG	0	
				7 MEU		SE	11	
	3		**11**		**99**		**242**	**355**

Questions?

UOC Macro Schedule



UOC Logistics Strategy

Maintenance Planning

Concept:

- Current UOC maintenance concept employs combination of ICS, CLS, I2P2 and USMC three-level (O-I-D), and is tailored according to program phase
  - Heavy ICS through LRIP
  - Migration toward USMC three-level at FRP
- Use of existing tools and facilities - maximize use of system BIT/BITE

Training

- What **will** be trained during NET:
  - Tasks specific to the UOC infrastructure only
    - Emplacement
    - Sustainment/Operator (24/7)
    - Maintenance
- What **will NOT** be trained:
  - C2 TDS applications
  - Communication systems
  - Tasks already trained within existing MOS

Training (Cont'd)

- The UOC program will examine and recommend training resource solutions from the following:
  - Leverage existing schools (no new schools)
  - Leverage the MISTC / RTC / MSTP for TDS application and system-level training
  - New Equipment Training (NET)
  - CD-based instructional packages (CBT) issued with COC

Technical Data/Manuals

- Systems Operation and Maintenance Manual
- 30% IETM Completion Review, 19-21 Feb 03
  - IPR scheduled for 10-12 Jun 03
- IETMs will include
  - Preventive Maintenance and Services (PMS) Schedule
  - Vendor COTS manuals

Packaging, Handling, Storage and Transportation

- Best Commercial Practices
- Transportability Certification coordination underway

Computer Resources

- COTS
- Hardware: Refresh rates per current USMC policy
- Software: Semi-annual/As required UOC Gold disk

Supply Support (Provisioning/Replenishment)

- Current UOC supply support concept
  - Pilot Production / LRIP: Contractor
  - IOC: Contractor
  - FOC: Contractor, I2P2, and USMC

Configuration Management

- CM plan currently under revision
- CM vision:
  - Government establishes a CCB
  - Subject to Government approval, Contractor manages:
    - Non-cost change requests
    - Class II ECPs
    - Impact analysis on all configuration change requests

Road Ahead

- Diminishing Manufacturing Sources (DMS)
  - Process in place to evaluate alternate sources of supply
- Warranty strategy
  - Commercial repair and replacement warranties
  - Integrated UOC system warranty requested